

A¹ 7. (Amended) An ink supply for an inkjet printing system, the ink supply having one or more areas of relatively high air diffusion through one or more structures comprising the ink supply, the ink supply comprising one or more air diffusion barrier structures shielding each of said one or more areas of relatively high air diffusion from air diffusion, and a quantity of liquid unsaturated ink disposed in said ink supply, and wherein the ink supply includes a reservoir for holding the quantity of liquid unsaturated ink, a fluid interconnect for interconnecting to the printing system when the ink supply is installed in the printing system, wherein the one or more areas of relatively high air diffusion includes an ink flow path between the reservoir and the fluid interconnect, and wherein the one or more air diffusion barrier structures includes a first barrier structure for shielding the ink flow path from air diffusion from an external environment into the ink flow path, further comprising a chassis member fabricated of a material having a relatively high air diffusion rate, the chassis member having a fluid passage formed therethrough leading between a fluid interconnect port and an ink reservoir attachment, and wherein the first barrier structure shields the fluid passage.

8. (Amended) The ink supply of claim 7 wherein the ink reservoir is a collapsible bag.

A² 12. (Amended) An ink supply for an inkjet printing system, the ink supply having one or more areas of relatively high air diffusion through one or more structures comprising the ink supply, the ink supply comprising one or more air diffusion barrier structures shielding each of said one or more areas of relatively high air diffusion from air diffusion, and a quantity of liquid unsaturated ink disposed in said ink supply, wherein the ink supply includes a reservoir for holding the quantity of liquid unsaturated ink, and a fluid interconnect for interconnecting to the printing system when the ink supply is installed in the printing system, the fluid interconnect including a septum for receiving a needle when the ink supply is installed in the printing system, wherein the one or more areas of relatively high air diffusion include the septum, and wherein the one or more barrier structures includes a septum barrier structure applied to the septum, wherein the septum barrier structure includes a metal layer affixed to the septum after the quantity of ink is disposed in said ink supply.

A3 9 16. (Amended) An ink supply for an inkjet printing system, the ink supply having one or more areas of relatively high air diffusion through one or more structures comprising the ink supply, the ink supply comprising one or more air diffusion barrier structures shielding each of said one or more areas of relatively high air diffusion from air diffusion, and a quantity of liquid unsaturated ink disposed in said ink supply, and wherein the ink supply includes a reservoir for holding the quantity of liquid unsaturated ink, and a fluid interconnect for interconnecting to the printing system when the ink supply is installed in the printing system, the fluid interconnect including a septum for receiving a needle when the ink supply is installed in the printing system, and wherein the septum is fabricated of an elastomeric material having a high air diffusion barrier property, the septum comprising the one or more barrier structures, wherein the elastomeric material is selected from a group including EPDM, Butyl, an EPDM/polypropylene (PP) blend, or a Butyl/PP blend.

5 17. (Amended) The ink supply of claim 7, wherein the liquid unsaturated ink has an air solubility level of 70% or less.

10 18. (Amended) An ink supply for an inkjet printing system, the ink supply having one or more areas of relatively high air diffusion through one or more structures comprising the ink supply, the ink supply comprising one or more air diffusion barrier structures shielding each of said one or more areas of relatively high air diffusion from air diffusion, and a quantity of liquid unsaturated ink disposed in said ink supply, wherein the liquid unsaturated ink has an air solubility level of 70% or less, and wherein the air diffusion barrier structures are constructed to shield the liquid unsaturated ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life.

A4 12 20. (Amended) An ink supply for an inkjet printing system, the ink supply having one or more areas of relatively high air diffusion through one or more structures comprising the ink supply, the ink supply comprising one or more air diffusion barrier structures shielding each of said one or more areas of relatively high air diffusion from air diffusion, and a quantity of liquid unsaturated ink disposed in said ink supply, wherein the unsaturated ink has an initial saturation

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level of 20% or less, and wherein the air diffusion barrier structures are constructed to shield the liquid unsaturated ink from air diffusion so as to provide a shelf life of at least six months, such that the air solubility level does not exceed 70% during the shelf life.

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cont.

13 21. (Amended) A replaceable ink supply for an inkjet printing system including an inkjet printhead, the ink supply comprising:
an ink reservoir structure defining an ink reservoir;
a fluid interconnect fluidically coupled to the ink reservoir;
a body of unsaturated ink disposed in said ink reservoir;
the fluid interconnect providing a fluid path for the ink to pass from the reservoir to the printing system when the ink supply is installed in the printing system; and
an air diffusion barrier system protecting the ink reservoir and the fluid interconnect from air diffusion for a shelf life of at least a period of six months, so that ink delivered to the printing system remains in an unsaturated condition for at least said period of six months.

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13 23. (Amended) The ink supply of claim 21, wherein:
the ink reservoir structure includes a collapsible bag and a chassis structure to which the bag is attached;
the fluid interconnect comprises a fluid passageway formed by the chassis structure leading from the bag to a fluid outlet, and a septum disposed in said passageway at said fluid outlet; and
the air diffusion barrier system includes a first barrier structure for shielding the passageway from air diffusion from an external environment into the ink flow path, and a second barrier structure for shielding the fluid outlet from air diffusion into the ink flow path from the external environment.

REMARKS

The Examiner is thanked for the careful review of the application as set out in the outstanding office action. Reconsideration of the application is respectfully requested.

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